

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A display system, comprising:

an active matrix type display panel;

a data driver that drives data lines of the display panel; and

a scan driver that scans scan lines of the display panel,

~~wherein,~~ the data driver ~~outputs~~ outputting a drive voltage corresponding to a predetermined gray scale value to the data lines during a second frame period that includes a second and subsequent frames, the second frame being the next frame after a first frame where a display stopping signal is input, then ~~outputs~~ outputting a non-display voltage to the data lines after the frame period ends, ~~when the display stopping signal for stopping an image display of the display panel is input, and~~

the scan driver ~~outputs~~ outputting a selecting voltage to the scan lines, and ~~scans~~ scanning the scan lines during a first frame period of the first frame and the second frame period, and ~~outputs~~ outputting a non-selecting voltage to all of the scan lines after the second frame period ends, and

the data driver and the scan driver being set to a sleep mode when a predetermined frame period elapsed after the second frame period ends if the display stopping signal is a sleep signal.

2. (Currently Amended) A display system, comprising:

an active matrix type display panel;

a data driver that drives data lines of the display panel;

a scan driver that scans scan lines of the display panel;

a first frame synchronization circuit that outputs a display control signal, which synchronizes a display stopping signal for stopping an image display of the display panel with a frame pulse that specifies a vertical scan period of the display panel;

a second frame synchronization circuit that outputs a scan control signal, which synchronizes the display control signal with the frame pulse; and

an OFF data output control circuit that outputs an OFF data control signal for outputting a drive voltage corresponding to a predetermined gray scale value to the data lines based on the display control signal during a second frame period that includes a second and subsequent frames, the second frame being the next frame after a first frame where the display stopping signal is input,

~~wherein~~ the data driver ~~outputs~~ outputting the drive voltage to the data lines based on the OFF data output control signal during the frame period, then ~~outputs~~ outputting a non-display voltage to the data lines after the second frame period ends, and the scan driver ~~outputs~~ outputting a selecting voltage to the scan lines, and ~~scans~~ scanning the scan lines based on the scan control signal during a first frame period of the first frame and the second frame period, and ~~outputs~~ outputting the non-selecting voltage to all of the scan lines after the second frame period ends, and

the data driver and the scan driver being set to a sleep mode when a predetermined frame period elapsed after the second frame period ends if the display stopping signal is a sleep signal.

3. (Currently Amended) The display system according to claim 2, wherein the display stopping signal is being at least one of:

an initializing signal for the data driver; and

a the sleep signal that sets a sleep state;

in which drive for the data lines is stopped.

4. (Currently Amended) The display system according to claim 2, wherein a drive voltage corresponding to the predetermined gray scale value is being a drive voltage corresponding to a gray scale value of 0.

5. (Currently Amended) A data driver for driving data lines of an active matrix type display panel, comprising:

a first frame synchronization circuit that outputs a display control signal, which synchronizes a display stopping signal for stopping an image display of the display panel with a frame pulse that specifies a vertical scan period of the display panel;

a second frame synchronization circuit that outputs scan control signals, which synchronizes the display control signal with the frame pulses;

an OFF data output control circuit that outputs an OFF data output control signal for outputting a drive voltage corresponding to a predetermined gray scale value to the data lines based on the display control signal during a second frame period that includes a second and subsequent frames, the second frame being the next frame after a first frame where the display stopping signal is input; and

a drive circuit that outputs the drive voltage corresponding to the predetermined gray scale value to the data lines,

wherein the drive circuit ~~outputs~~ outputting the drive voltage to the data lines based on the OFF data output control signals during the second frame period, and ~~outputs~~ outputting a non-display voltage to the data lines after the second frame period ends.

6. (Currently Amended) The data driver according to claim 5, ~~wherein~~ the scan control signal is being output to the scan driver that scans scan lines of the display panel, and the scan driver ~~outputs~~ outputting a selecting voltage to the scan lines, and ~~scans~~ scanning the scan lines based on the scan control signal during a first frame period of the first frame and the second frame period, and ~~outputs~~ outputting a non-selecting voltage to all of the scan lines after the second frame period ends, and
the data driver and the scan driver being set to a sleep mode when a predetermined frame period elapsed after the second frame period ends if the display stopping signal is a sleep signal.

7. (Currently Amended) The data driver according to claim 5, ~~wherein~~ the display stopping signal is being at least one of:

an initializing signal for the data driver; and

~~a~~ the sleep signal that sets a sleep state;

in which drive for the data lines is stopped.

8. (Currently Amended) The data driver according to claim 5, wherein the drive voltage corresponding to the predetermined gray scale value is being a drive voltage corresponding to a gray scale value of 0.

9. (Currently Amended) A display drive method for a display system, comprising:

an active matrix type display panel;

a data driver that drives data lines of the display panel; and

a scan driver that scans scan lines of the display panel,

wherein the data driver ~~outputs~~ outputting a drive voltage corresponding to a predetermined gray scale value to the data lines during a second frame period that includes a second and subsequent frames, the second frame being the next frame after a first frame where a display stopping signal is input, when the display stopping signal for stopping an image display of the display panel is input, and the scan driver ~~outputs~~ outputting a selecting voltage to the scan lines, and ~~scans~~ scanning the scan lines during a first frame period of the first frame and the second frame period, and the data driver ~~outputs~~ outputting a non-display voltage to the data lines after the second frame period ends, while the scan driver outputs a non-selecting voltage to all of the scan lines after the second frame period ends, and

the data driver and the scan driver being set to a sleep mode when a predetermined frame period elapsed after the second frame period ends if the display stopping signal is a sleep signal.

10. (Currently Amended) The display system according to claim 1, wherein the display stopping signal is being at least one of:

an initializing signal for the data driver; and

a the sleep signal that sets a sleep state;

in which drive for the data lines is stopped.

11. (Currently Amended) The display system according to claim 1, wherein a drive voltage corresponding to the predetermined gray scale value is being a drive voltage corresponding to a gray scale value of 0.